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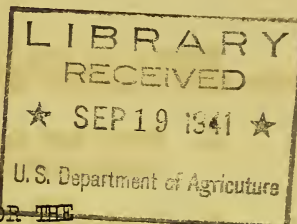


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UNITED STATES DEPARTMENT OF AGRICULTURE

U.S. Agricultural Marketing Service

Washington, D. C.



LABELING OF NAPHTHALENE PREPARATIONS FOR THE  
CONTROL OF CLOTHES MOTHS

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Naphthalene preparations intended for use for the control of clothes moths are subject to the provisions of the Federal Insecticide Act if marketed within its jurisdiction. Naphthalene is slowly volatile at ordinary temperatures and under proper conditions acts as a fumigant (gas) to kill moths. To be effective it must be used in tight containers, the dosage must be adequate and the period of exposure must be sufficient to kill. Naphthalene does not repel moths and is of no practical value against such household insects as flies, roaches, ants and bedbugs.

**Tightness of Containers:-** The articles to be treated must be in a container which will permit the naphthalene to build up a sufficient concentration to be effective. Well-built closets with all cracks sealed with tape, tight wooden storage cupboards or chests, and well constructed trunks have been found satisfactory for this purpose. Unsealed closets with cracks under or around the doors, loosely built cupboards or chests, and many types of corrugated cardboard containers will not retain sufficient gas to be effective.

**Dosage Required:-** The dosage of naphthalene required depends on the articles to be protected, the temperature, and the physical form of the product. At temperatures below 70°F. naphthalene volatilizes very slowly, and if the temperature is too low the confined air, even when saturated with the gas, may not hold enough of it to be effective. The form of the naphthalene, whether fine crystals, balls, or cakes, and the form of the holder, when one is used, will also affect the rate of volatilization of the spray. Other conditions being equal, the amount of gas given off in a definite period varies directly with the surface of the naphthalene exposed. Under proper conditions, in gas-tight containers where the gas is given off freely and absorption does not take place, a dosage of 1 pound of naphthalene crystals to 100 cubic feet of space will kill moths in all stages with sufficient time for exposure.

**Length of Exposure and Necessity for Cleaning Articles Before Storage:-** Adult moths, their eggs, and very young larvae are killed within 2 or 3 days by the above-mentioned dosage of the fumigant. On the older larvae, however, it acts very slowly and, even when used at high dosages, will not kill them in less than 3 or 4 days; meanwhile they will continue feeding on the fabric and may seriously damage it. In order to avoid damage, all articles must be freed of the older larvae by thoroughly brushing them unless they have just been washed or dry cleaned before they are packed away. Any eggs or very young larvae that may be missed will be killed by the naphthalene vapor before material damage is done.

Directions for Use:- The directions for use of these preparations against moths should clearly cover the following points:-

1. Their use should be restricted to tight containers so that sufficient concentration of the gas will be maintained.
2. A specific dosage that will kill the eggs, moths, and larvae should be recommended. This dosage should be a definite number of ounces, pounds, or cakes (depending on the form of the material) to a definite number of cubic feet of space sufficiently tight to retain the fumes.
3. The directions should provide that all articles be thoroughly brushed so as to remove the older larvae before they are packed away.

Unwarranted Claims:- Such claims as "Moth Repellent," "Drives away moths and insects," "Drives out moths, roaches, flies, etc." are not justified and should not be made.

Naphthalene should not be recommended for the control of moths in upholstery or furniture unless the directions provide for its use in sufficient dosage and in such a manner that the gas will be confined long enough to furnish an effective fumigation.

It should not be recommended for destroying or preventing odors, or for overcoming all odors. Its only value as a deodorant is to overcome or mask certain other odors.

It should not be recommended as a disinfectant or germicide; for the control or prevention of disease; or to purify the air.

Ingredient Statement:- If a preparation is composed entirely of naphthalene it is not necessary that the label bear an ingredient statement. If any other ingredient is added, it will be necessary for the manufacturer to determine whether this ingredient is active or inert, and if it is inert an ingredient statement is required under the law.

C. C. McDonnell,  
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September 24, 1934.

Revised August 20, 1941.

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